

REMARKS

Reconsideration of the above-identified application is requested in view of the remarks that follow.

In the February 23, 2005, Office Action in this application, the Examiner objected to Fig. 1 of the drawings because it lacks a "Prior Art" legend. The Examiner also objected to Figs. 3 and 4 because they fail to show the lateral diffusion steps recited in the claims.

Applicant provides the attached set of original drawings, marked in red ink to show the drawing changes that Applicant proposes to address the Examiner's objections to the drawings. Specifically, Applicant proposes to add a "Prior Art" legend to Fig. 1, as requested further, it is proposed that "lateral diffusion" indicators be added to Figs. 3 and 4, as shown in the attached drawing mark-ups.

Consideration and approval of the proposed drawing changes is requested.

The Examiner objected to original claim 3, citing a misspelling in that claim.

As indicated above, claim 3 has been amended to change "quadolateral" to --quadrilateral--, as required.

The Examiner rejected claims 1-3 under 35 U.S.C. 103(a) as being unpatentable over the Bol et al. '775 patent in view of the Pfirsch '445 patent. For the reasons set forth below, Applicant traverses this rejection of claims 1-3.

In accordance with the present invention, a single dopant region is graded in dopant concentration using specified mask openings and a single dopant implant. In contrast, the Bol et al. patent teaches the creation of a series of separate doped regions using several mask openings and a single implant; no specified width of mask opening is disclosed or suggested. The Pfirsch reference teaches the creation of two separate regions, one with high doping and one with low doping, using various size mask openings and a single implant step. The only similarity among the three is the fact that each uses a single implant step to arrive at its completely distinct dopant implant structure. Applicant fails to appreciate from either the Bol et al. reference or the Pfirsch reference the motivation required to be found in them to arrive at the combination cited by the Examiner.

Moreover, it is important to note that the Bol et al. reference requires that the dopant regions created by the mask openings be electrically isolated from each other. This is implicit to a person skilled in the art based upon the use of the term "guard rings" in the Bol et al. disclosure. If, as is the case in the claimed invention, the "guard rings" are electrically joined to the main junctions, then they are not guard rings at all. The differences between true Guard rings and the dopant regions of the invention are discussed in the application at lines 20-22 of page 1, wherein it is stated: "To function properly, floating guard rings must be electrically isolated from the main junction; this is not possible with certain types of implants. Such as n+ buried layers with overlying n-type epitaxial layer."

With respect to the Pfirsch reference, while it does disclose the use of mask openings where dopant diffuses completely underneath the closed mask to create a single region, as in the case of the present invention, the reference discloses only the formation of uniformly doped regions rather than the dopant grading profile of the single dopant region recited in Applicant's claims.

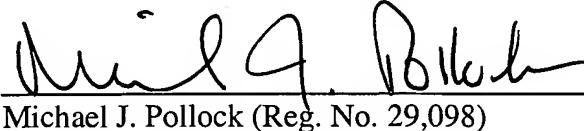
In view of the above, Applicant submits neither the Bol et al. reference or the Pfirsch reference, whether considered individually or in combination, either teaches or suggest the invention recited in Applicant's claim 1-3 as originally presented. Thus, Applicant submits that all claims now present in this application patentably distinguish over the prior art and requests that this application be passed to allowance.

Respectfully submitted,

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